

## CLAIMS

1. A magnetic field generator system having a magnetic center field, the generator comprising:

opposing posts;

opposing yokes connected to said opposing posts, at least one of said posts having a spacer;

at least one permanent magnetic block connected to at least one of said opposing yokes; and

at least one spacer formed in at least one of said posts, said yokes and said permanent magnetic block.

2. The system of Claim 1 wherein said at least one spacer comprises at least one slot formed in at least one of said opposing yokes.

3. The system of Claim 2 wherein said at least one spacer comprises at least one slot formed in opposing ends of at least one of said opposing slots.

4. The system of Claim 2 wherein said spacer comprises at least one slot formed in each of said opposing yokes.

5. The system of Claim 2 wherein said spacer comprises a plurality of slots formed in at least one of said opposing yokes.

6. The system of Claim 5 wherein said spacer comprises a symmetrical pattern of slots formed in at least one of said yokes.

7. The system of Claim 5 wherein spacer comprises an un-symmetrical pattern of slots formed in at least one of said yokes.

8. The system of claim 5 wherein at least two of said plurality of slots are of different sizes.

9. The system of claim 5 wherein at least two of said plurality of slots are of different shapes.

10. The system of Claim 2 wherein said at least one spacer comprises at least one plate.

11. The system of Claim 10 wherein said at least one plate is a steel plate adapted to be inserted in at least one slot.

12. The system of Claim 10 comprises a plurality of plates, wherein at least two of said plates are comprised of different material.

13. The system of Claim 10 wherein said at least one plate is composed of different material than said opposing yokes.

14. The system of Claim 10 wherein said at least one plate is composed of a same material as said opposing yokes.

15. A method for adjusting a magnetic center field of a permanent magnet system, said method comprising:

determining an adjustment required for the magnetic center field; and

adjusting the magnetic center field by using at least one spacer in the permanent magnet system.

16. The method of Claim 15 wherein said spacer comprises forming at least one slot in the permanent magnet system.

17. The method of Claim 15 wherein said spacer comprises forming a plurality of slots in at least one of two opposing yokes of the permanent magnet system.

18. The method of Claim 16 wherein said spacer further comprises at least one plate used at least with said at least one slot.

19. A method for adjusting a magnetic center field of a permanent magnet system in an MRI device, said method comprising:

determining an adjustment required for the magnetic center field;

adjusting the magnetic center field using at least one spacer in the permanent magnet system; and

determining if said adjustment is sufficient.

20. The method of Claim 19 wherein said spacer comprises forming at least one slot in the permanent magnet system.